

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An air conditioning system, in particular a motor vehicle air conditioning system (1), having a circuit (2) through which refrigerant flows and in which are arranged a refrigerant compressor (3) and a first heat exchanger (4), an inner heat exchanger (5), an expansion element (7) and a second heat exchanger (8), the first heat exchanger (4) serving as a gas cooler in AC operation and the second heat exchanger (8) serving as an evaporator in AC operation, ~~characterized in that~~ wherein a device for reversing the flow direction of the refrigerant is provided for heat pump operation, and means are provided which deactivate the inner heat exchanger (5) while the flow direction is reversed.
2. (Currently amended) The air conditioning system as claimed in claim 1, ~~characterized in that~~ wherein the means which deactivate the inner heat exchanger (5) while the flow direction is reversed preferably comprise two non-return valves (9).
3. (Currently amended) The air conditioning system as claimed in ~~claim 1 or 2,~~ ~~characterized in that~~ claim 1, wherein the device for reversing the flow direction of the refrigerant comprises a cross-over circuit of the back pressure and high pressure connections on or in the refrigerant compressor (3).
4. (Currently amended) The air conditioning system as claimed in claim 2, ~~characterized in that~~ wherein the non-return valves (9) are provided on or in the inner heat exchanger (5).
5. (Currently amended) The air conditioning system as claimed in ~~one of the preceding claims,~~ ~~characterized in that~~ claim 1, wherein the refrigerant compressor (3) can be

operated in two directions or a correspondingly acting configuration of lines and valves is provided.

6. (Currently amended) The air conditioning system as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein an expansion element ~~(7)~~ having antiparallel bypasses is provided in the circuit ~~(2)~~.
7. (Currently amended) The air conditioning system as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein the heat exchanger ~~(8)~~ which serves as an evaporator in AC operation functions as a heater in heat pump operation.
8. (Currently amended) The air conditioning system as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein CO₂ is used as the refrigerant.
9. (Currently amended) The air conditioning system as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein a compressor regulator valve and a device for switching the refrigerant flow direction are electrically controlled.
10. (Currently amended) The air conditioning system as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein the stroke volume of the refrigerant compressor ~~(3)~~ is adjustable.
11. (Currently amended) A method for operating an air conditioning system ~~(1)~~ as claimed in ~~one of claims 1 to 10~~ claim 1, the refrigerant flowing through the circuit ~~(2)~~ counter to the normal flow direction, and the inner heat exchanger ~~(5)~~ being bypassed, during heat pump operation.